

Sequence Listing

Applicant Data:

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Title of the Invention: *PHARMACEUTICAL PRODUCT COMPRISING TRANSGENIC POLLEN EXPRESSING HETEROLOGOUS POLYPEPTIDES*

Number of listed sequences: 4

Seq. nr. 1

Size: 1629 base pairs

Type: cDNA

Name of the gene: AtGRP17

Function: oleosin-type protein

SEQ 1: Complete sequence of the coding region of the AtGRP17 (4940-5358) + (5545-6757)

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          a tgagcgaaga actaagtcaa aagccatcat cagctcagtc
4981 tctgtcactg agagagggca gaaatagggt tccttttctg tccctgtcac
agagagaggg
5041 cagatTTTTT ctttctctat ctctttcaga gagagatgga agaaagTTTT
cttttctcag
5101 tatgttctct tttctcatgc cactgttgga ggttattaag attattattg
cttctgtggc
5161 ctccgtaatc ttcgtcgggt tcgcctgtgt aaccctcgct ggttctgccg
cagcattagt
5221 cgtaagcacc ccggttttca tcataattag tcctgttctc gtaccagcta
cgatagccac
5281 ggttgtcttg gcgacaggat tcacggccgg tggctctttt ggagcgacgg
cacttgggtc
5341 catcatgtgg cttgttaagt aagattatta taacagctta tattgagatc
actcgagatt
5401 tatgcttaat tatataatat tcataaacct atagttaaaa agtatattga
acttcatttg
5461 ttaacgtact ttataaatat tgaacttcgt tcgttttctt aattgggtctc
taagtatata
5521 tacatacttt tttgtgtgat gcagacgtag gatgggagta aagccgaagg
ataatccacc
5581 tccggcagga cttccaccga attcgggagc aggagcagga ggagctcaaa
gtctgatcaa
5641 aaagtcaaag gcaaagtcta aagggtgggt taaggcttgg tgtaagaaga
tgtaaaaaag
5701 taaattcggg gttaaaaaag gcaagtccgg gggtgaaaaa agtaaatTTG
gaggtaaaag
5761 cggtaaagtc gaaggatgaag aaggatgtgc gtctggggat gaaggatgtg
ctggaagtga
5821 aggaggtatg tccggagggtg aaggaggtaa atccaaaagt ggaaaaggta
aactcaaagc
5881 taaactcgaa aagaaaaaag gtatgtccgg aggtccgag agtgaagaag
gtatgtcttg
5941 aagtgaagga ggtatgtctg gtgggtggagg aagtaaatcc aaaagtaaaa
aaagtaaaact
6001 caaagctaaa ttgggaaaga aaaaaggatg gtccggaggc atgtcaggaa
gtgaagaagg
6061 tatgtctgga agtgaaggag gtatgtccag tgggtggagga agtaaatcca
aaagtaaaaa
6121 aagtaaaactc aaagctaaat tgggaaagaa aaaaggatgt tccggaggca
tgtcaggaag

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6181 tgaagaaggt atgtctggaa gtgaaggagg tatgtccgga ggtggaggag
 gtaaattccaa
 6241 aagtagaaaa agtaaactca aagctaaatt gggaaagaaa aaatgtatgt
 ccggaggcat
 6301 gtcaggaagt gaaggaggta tgtctggaag tgaaggaggt atatccggag
 gtggtatgtc
 6361 tgggggcagt ggaagtaaac acaaaattgg aggaggtaaa cacggaggtc
 ttggaggtaa
 6421 attcggaaag aaaagaggca tgtccggaag tggaggaggc atgtcaggaa
 gtgaaggagg
 6481 tgtgtctgga agtgaaggaa gtatgtctgg aggtggtatg tctgggggta
 gcggaagtaa
 6541 acacaaaatt ggaggaggta aacacggagg tottagaggt aaattcggaa
 agaaaagagg
 6601 tatgtcagga agtgaaggag gtatgtctgg aagtgaagga ggtatgtcgg
 aaagtgtat
 6661 gtccgggagt ggagggggta aacacaaaat cggaggaggt aaacacaaat
 ttggaggagg
 6721 taaacacgga ggtggagggt gccacatggc ggagtaa

Protein sequence translated from AtGRP17

MSEELSQKPSSAQSLSLREGRNRFPLSLSQREGRRFFPSLSLSE
 RDGRKFSFLSMFSFLMPLLEVIKIIIASVASVIFVGFACVTLAGSAAALVVSTP VFII
 FSPVLVPATIIATTVVLATGFTAGGSFGATALGLIMWLVKRRMGVKPKDNPP PAGLPPNS
 GAGAGGAQSLIKSKAKSKGGLKAWCKMLKSKFGGKKGKSGGGKSKFGGKGKSEGE
 EGMSSGDEGMSGSEGGMSGGEGGKSKSGKGKLGKLEKKKGMSGGSESEEGMSGSEGG
 MSGGGGSKSKSKSKLAKLGKKKGMSGGMSGSEEGMSGSEGGMSGGGGSKSKSKSK
 LKAKLGKKKGMSGGMSGSEEGMSGSEGGMSGGGGKSKSRKSKLAKLGKKKCMMSGM
 SGSEGGMSGSEGGISGGMSGGSGSKHKIGGGKHGGLGGKFGKKRMSGSGGGMSGSE
 GGVSGSEGSMSGGGMSGGSGSKHKIGGGKHGGLRGKFGKKRMSGSEGGMSGSEGGMS
 ESGMSGSGGGKHKIGGGKHKFGGGKHGGGGGHMAE

Seq. nr. 2

Size: 1658 base pairs

Type: DNA

Name of the promoter: ProAtGRP17

Function: promoter

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3371      acaaagaaat taactatgaa acaatgcttt gtttaaatga agtaattaat
      3421 cgg tactata gcgtatatac atagaatgga tccaatttaa ccaaagcaac
tgtatgtgac
      3481 tatgtgaatg attcaatcgt gagacattga aattgtcgtt tctccattac
ctttttggaa
      3541 gaaaaaaccaat cgaaagctag ctaagacttt ttttattaaa cgaacttgct
actattttcta
      3601 tgtttttcttt gaaatgaaaa tttaaatttgt tactgtttca cctaaaactc
aaaagtattg
      3661 ctttttaatt ttattattaa gaaaaactaa tcttatttat gttaagaaac
ctgtcaattt
      3721 ttcattgtta atttcggctc tataattatt aattaacaat caattttctca
aaaattgcaa
      3781 tcatgattat gattagatat atattagttg gattgtgatg ctttttttgt
aatataaaat
      3841 ggatgtttgt attagtttct cactcatgta attaaacacc aaatgctaga
aactagtact
      3901 tttgtttctc agctctcgtc tattgttata tctgcaacac gaacaaaaac
cttatctagg
      3961 tgttatatat cacggttatg tttatgagtt agaagggatt cttcaacaaa
aatcacggaa
      4021 ctacttgtat atatgtatgt gtgtatccga tcgaggttga cttccggggg
tggaacgttga
      4081 agaagacgaa ttcattgatt gggcttatat atgggcatgt attacttggt
tcaagtttgt
      4141 aacactttta gctttttcaa ttctattcga aacccaaaata ttgggctata
tatctttata
      4201 caaccttcaa gataaattgg accaatttta gaagagcaaa ttgaaccggg
ccgttagcgt
      4261 tagccaaacc ccaactcctt ttcagtacaa tttaatcaag aattttcta
aatcgtgaa
      4321 tttctagaca tacatatcat aatttcgtca aagcgagcct acacctagtt
ttgagctaca
      4381 taactotttt cttttttttt ttatgattag gaggtttcaa aaccttgg
cccataattt

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4441 cttataatta gttttgtaat actaaattta ccattgagag cgacctctcg
tcactagtaa
4501 ttogaagatc tcatattcat gacctatatt aaccatcttc cagtcaagta
atttcaatcg
4561 aaattcatca aaatcatata tttaacttag taatcacata tgatatggct
aatatacgta
4621 atataacgat aaagatttct tcacgctttg atattccata aagcaatgga
aatatggaat
4681 ggaagaaaac atttgaattt tacaagaaac aataaataga aggcctacaa
aacatgacaa
4741 cccacacaca cacacacgaa aagagaaaat ataaagaagg acatgtaacg
tgacgtagcg
4801 tagatctcca ttcactccaa tcgttttgca tggagcatgc atgtgtgtgt
accgtgcacg
4861 tagtagagac cacacaactc cttcataaaa gccctctctc tcttaccatc
acaaaaacac
4921 aacaatccga tcagaaaat

Seq. nr. 3

Size:

Type:

Name of the gene: RR1f

Function:

SEQ 3: Complete sequence of RR1f

5'ATA AAG CTT TTT CTC TGT TTT TGT CCG TGG AAC

Seq. nr. 4

Size:

Type:

Name of the gene: RR2r

Function:

SEQ 4: Complete sequence of RR2r

5'ATA CCA TGG CAC GTG ATT CGG TGG AAG TCC TGC C